APPLICATIONS OF

VIRGINIA ELECTRIC AND POWER COMPANY

For approval of expenditures for new generation facilities and for a certificate of public convenience and necessity

CASE NO. PUE000009

and

For approval and certification of transmission facilities

REPORT OF DEBORAH V. ELLENBERG, CHIEF HEARING EXAMINER

August 7, 2000

On January 21, 2000, Virginia Electric and Power Company ("Virginia Power" or the "Company") filed an application requesting Commission approval of expenditures pursuant to § 56-234.3 of the Code of Virginia to construct two new gas-fired combustion turbine generating units ("CTs") approximately 160 megawatts ("MW") each in Caroline County, Virginia, near the Town of Ladysmith and the Company's Ladysmith Substation. Virginia Power also requests a certificate of public convenience and necessity for the proposed units pursuant to § 56-265.2. The units are proposed to meet a portion of Virginia Power's projected increase in its capacity requirements for the year 2001. That application was docketed as Case No. PUE000009.

A second application was filed at the same time. In that application the Company requests approval and certification pursuant to the Utility Facilities Act and § 56-46.1 of the Code of Virginia of approximately four miles of 230 kV transmission line to connect the proposed generating units to the Company's transmission facilities. That application was docketed as Case No. PUE000010.

By Order dated February 16, 2000, the Commission merged Case No. PUE000010 into Case No. PUE000009 so that both applications could be considered together, established a procedural schedule, and set a public hearing for May 23, 2000.

On May 4, 2000, Virginia Power, by counsel, filed a Motion for Interim Authority to make financial expenditures and to undertake permitting, site development, and construction work for the proposed combustion turbine peaking units and related facilities. Virginia Power sought such authority at its own expense and risk, to ensure timely installation and completion of the project if approved. The Company asserted that the generating unit equipment is scheduled to be delivered to the site in October 2000, and that a minimum of eight months is needed to erect the units. The Company argues that a longer schedule would provide a great probability of meeting the June 1,

2001, commercial operation date. Therefore, to enhance the probability of meeting the commercial operation date, the Company requested the Commission to conditionally grant it authority to make financial expenditures for the project to begin necessary permitting, site preparation, and construction work, as needed. Staff and Dynegy both opposed the motion. By ruling dated May 15, 2000, that motion was denied without prejudice because no compelling reason was offered to grant the motion at that time.

The hearing on the pending applications was convened as scheduled. Edward L. Flippen, Esquire, Kodwo Ghartey-Tagoe, Esquire, Guy T. Tripp, Esquire, and Jill C. Hayek, Esquire, appeared as counsel for the Company. C. Meade Browder, Jr., Esquire, and Marta B. Curtis, Esquire, appeared on behalf of Staff. Thomas B. Nicholson, Esquire, appeared as counsel for Dynegy, Protestant. Virginia Power, Staff and Dynegy presented the testimony of eleven witnesses as detailed later in this report. Floyd Thomas, chairman of the Caroline County Board of Supervisors, appeared as a public witness in support of the application.

Proof of notice of the applications was marked as Exhibit A and admitted into the record. A transcript of the hearing is filed with this Report and includes the closing arguments of Virginia Power, Staff, and Dynegy.

On July 27, 2000, Virginia Power renewed its Motion for Interim Authority to make financial expenditures and to undertake preliminary construction work. Specifically, it sought to undertake preliminary construction work consisting of the installation of pilings and foundations as Virginia Power may determine to be appropriate to ensure the timely installation and completion of the project at its own expense and risk. In that motion the Company advised that it had entered into a contract with General Electric Company ("GE") for the construction and installation of the units. In this motion, the Company also, for the first time, revealed that its contract with GE requires construction to begin by August 1, 2000, to meet the June 1, 2001, completion date. It further advised, also for the first time, that it will incur significant cost, approximately $10,000 a day, if construction begins later than August 1. By ruling dated July 28, 2000, I advised the Commission that this report was imminent and would recommend approval of the proposed units. Based on my recommendation for disposition of this case and on the assertion that financial penalties would be imposed if construction began later than August 1, 2000, I recommended that the Motion for Interim Authority be granted. The Commission granted that interim authority by Order dated July 28, 2000.

SUMMARY OF THE RECORD

In this case, Virginia Power proposes to construct two gas-fired combustion turbine generating units of approximately 160 MW each for a total of 320 MW. The units are proposed to begin commercial operation on or about June 2001. The proposed site for the units is in Caroline County near the Town of Ladysmith and has convenient access to transmission lines, a natural gas pipeline, and a railroad for delivery of major unit components.[1] The Company asserts that the environmental impact of the project will be minimal because the proposed combustion turbine units

[1]Company Exhibit 1.

will operate for relatively few hours each year, will normally be fueled by natural gas, and will not require large amounts of cooling water.[2]

The Company initially sought approval of these two CTs in an application filed August 11, 1998, in which it requested approval of five CTs at a site in Fauquier County or the Ladysmith site.[3] Virginia Power, however, withdrew its request to construct the units in Caroline County, and amended that application to seek authority to construct only four CTs at the Fauquier County site. The Commission ultimately approved the Company's request to construct the four units in Fauquier County.[4]

The Company offered the testimony of E. Paul Hilton, Edward J. Rivas, Charles A. Stadelmeier and Jeffrey L. Jones in support of its application for the generation facilities. The Company asserts that there is a need for the generation facilities based on the Company's load forecast, that its proposal offers the lowest cost option, is the most reliable, and minimizes the environmental impact.

Mr. Hilton's testimony presented an overview of the application, the need for the new capacity, the Company's solicitation for competitive bids to meet that need, and the Company's reasons for requesting approval of a self-build option.[5] Mr. Hilton testified that Virginia Power is renewing its request for Commission approval to construct the two Ladysmith CTs because a recent assessment of its load forecast continues to demonstrate a need for additional generating capacity in the near term in the Company's service territory. The Company's current load forecast shows a continuing growth in demand indicating cumulative capacity needs of 810 MW in 2001, 1001 MW in 2002, and 1,179 MW in 2003.[6] The Company issued a competitive solicitation for additional capacity or request for proposals ("RFP") on December 10, 1999, but the initial evaluation of the bids indicates that the bid proposals would not be competitive with the Company's cost of constructing the units proposed in this case. Mr. Hilton testified that Virginia Power must perform further analysis for the proposals but that the preliminary review demonstrated that the Company's build option remains the most cost-effective option at this time. The cost of the units will be approximately $305 per kW with an overnight construction cost of $97.5 million.[7] The proposed units, however, will meet only an increment of the Company's additional capacity needs. Therefore the Company intends to continue to evaluate the December 1999 RFP bids, and will continue to look to the wholesale power market.[8]

Mr. Hilton testified that Virginia Power has executed contracts for capacity from independent sources as a result of a January 1999 RFP issued at the Commission's direction.[9] Those contracts total 5,670 kW for commercial operation this year. He also expects the Company

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[2]Exhibit EJR-3, at 8.
[3]*Application of Virginia Electric and Power Company*, (the "*Remington case*") Case No. PUE980462, 1999 S.C.C. Ann. Rep. 431.
[4]Id.
[5]Exhibit EPH-2 and Transcript 27.
[6]Exhibit EPH-2, at 2.
[7]Id. at 3.
[8]Exhibit JLJ-8, at 2.
[9]Id. at 2.

to execute additional contracts for 64,000 kW for 2000 and 160,000 kW for 2001.[10] Mr. Hilton testified that the more recent December 1999 RFP sought approximately 850 MW of capacity. The Company received 21 proposals from 13 bidders by the January 18, 2000, due date. Mr. Hilton reiterated that the Company has a continuing obligation to serve its customers and thus it must ensure that it is meeting the projected capacity needs in a reliable and cost-effective manner. He testified that the proposed combustion turbine units can be installed in time to meet the projected capacity needs and thus serve the best interests of its customers.[11]

Edward J. Rivas, senior vice president-fossil and hydro, offered testimony addressing the selection of equipment, selection of the Ladysmith site, construction plans and schedule, monitoring of the contractor's work, and environmental approval requirements applicable to the facilities.

Mr. Rivas testified that the two simple cycle CTs are manufactured by GE and will be fired on natural gas a majority of the time, but will be capable of using fuel oil. The proposed units are the same type of units that are being installed at the Remington CT site but have a higher unit rating because of the planned addition of an inlet cooling system.[12] The units are capable of winter output of approximately 196 MW when fueled on oil. Mr. Rivas testified that the major components of the combustion turbine units are manufactured almost entirely in the shops of the manufacturer and upon completion are shipped to the site and installed. GE had begun manufacturing the units at the time of hearing, and some site preparation work began in February 2000.[13] The generating unit equipment is scheduled to be delivered to the site in October 2000, and a minimum of eight months is needed to erect the units.[14] Mr. Rivas noted that a longer schedule would provide a greater probability of meeting the June 1, 2001, commercial operation date.

The Ladysmith location was identified during the site selection process conducted in 1998 that also identified the Remington CT site. The site for the subject proposal is located in Caroline County. The purchased property includes 291 acres located north of S.R. 632, between U.S. 1 and I-95. The land use is currently farmland and forest. One residence is also located on the property. A twenty-four inch-joint use pipeline owned by Virginia Natural Gas passes through the site. Columbia Gas of Virginia is the certificated distribution company serving the area. Mr. Rivas testified that the site also has railroad access so the components of the combustion turbine can be delivered to the site.

In supplemental direct testimony, Mr. Rivas addressed environmental concerns with the impact of the project on wetlands. He testified that 12% of the site has been classified as jurisdictional wetlands, but the project will be constructed to minimize the impact on those wetlands. Specifically, clearing in those wetland areas will be done by hand and no foundations or fill will be placed in the wetlands. To bring natural gas and fuel oil to the site, two pipelines must cross an unnamed tributary to the Motto River. The pipes will be trenched to an area just outside the wetlands boundary and will be directionally bored or trenched under the stream to a depth of 3-5

[10]Exhibit EPH-2, at 2.
[11]Id. at 4.
[12]Exhibit EJR-3, at 2.
[13]Id. at 4.
[14]Id.

feet below the bottom of the stream channel.[15] Additionally, the 230 kV transmission line is proposed to span across a small pond and associated wetlands.

The Caroline County Planning Commission approved plans for construction of up to five CTs on the site in 1998. Mr. Rivas sponsored an exhibit which identified the permitting status of several required authorizations. The matrix includes permits from the Caroline County Department of Community Development, Virginia Department of Environmental Quality, Virginia Department of Health, Virginia Department of Transportation, and U.S. Army Corps of Engineers. Most permits had been issued or were expected to be issued shortly. The air permit requested from the Virginia Department of Environmental Quality had been submitted in August of 1998 but revised in January of 1999 and again in May of 2000. A public hearing was scheduled on that application for June 28, 2000.[16]

Charles A. Stadelmeier adopted the prefiled testimony of Daniel J. Green as his own.[17] His testimony addressed the Company's resource planning process, the need for generation capacity additions, the assumptions that were included in the current load forecast, and the determination of the best type of generation to meet the identified need. He identified several major assumptions factored in to the Company's forecast, including the suspension of the 200 MW diversity exchange between the Company and Allegheny Power effective March 2000, and termination of the Company's 900 MW of baseload capacity purchases from Hoosier Energy Rural Electric Cooperative and American Electric Power Service Corporation.[18] He also included 229.67 MW of non-Company generation which the Company has contracted with, or expects to contract with, as a result of the January 1999 RFP solicitation.[19] The Company has also determined that a 12.5% target reserve margin is an appropriate level of reserves to use in the model evaluations. That margin was included in the assumptions.

Mr. Stadelmeier also testified that the forecast indicates cumulative capacity needs of 810 MW in 2001, 1001 in 2002, and 1179 MW in 2003.[20] He reported that the load forecast projects the need for generating capacity to operate during peak load, particularly in the summer. He testified that CTs provide inexpensive capacity which is easily removed from service when the peak requirements have been met. He recognized that CTs have a relatively high fuel cost, however, since the units are operated at relatively low capacity factors, the higher fuel cost is offset by relatively low capital costs and operating advantages.[21]

Company witness Jeffrey Jones also addressed need. As director of capacity contracts, he participated in the development of solicitations for capacity, evaluation of bids, negotiation of contracts, and contract restructuring. He testified on the status of the bids received in response to the January 1999 request for proposals ("RFP"). The Company has signed two contracts for a total of 5,670 kW, and is negotiating contracts based on three other proposals which are expected to

[15]Exhibit EJR-4.
[16]Exhibit EJR-5.
[17]Transcript 99.
[18]Exhibit CAS-7, at 3.
[19]Id.
[20]Id. at 4.
[21]Id. at 6.

result in the availability of 64,000 kW by June 1, 2000, and 160,000 kW by June 1, 2001. He also testified that on January 18, 2000, the Company opened 21 proposals from 13 bidders in response to the December 1999 RFP.[22] He testified that based on a preliminary analysis, none of the proposals were as cost-effective as the proposed Ladysmith CTs, but that several proposals may prove to be viable options to fill the remainder of the Company's need for 2001 and 2002.[23] He testified that the proposals were evaluated in a manner consistent with the methodology utilized in response to the Commission's directives in the *Remington case*.[24]

The Company also submitted an application for approval and certification of new transmission facilities to connect the CTs to the Company's transmission system. The proposed transmission facilities will consist of 230 kV structures, conductors, insulators, and associated equipment. In support of its request for approval of transmission facilities, the Company submitted the testimony of Michael J. Chupka, John B. Bailey, and James A. Cox.

Mr. Chupka, a system engineer for the Company, is responsible for planning the Company's electric transmission system up to and including 500 kV facilities. He testified that the Company assumed installation of two CTs, but also modeled the addition of three more CTs at this site in later years. A total connected generating capacity of 870 MW in the summer and 990 MW in the winter was assumed in the transmission interconnection study.[25]

Mr. Chupka testified that the proposed CT site is located adjacent to the Ladysmith to Possum Point 500 kV line approximately four miles from the Ladysmith Substation and approximately five miles from the transmission corridor for a 230 kV line (No. 256) and a 115 kV line (No. 47). He testified that approximately four miles of new 230 kV line between the proposed combustion turbine site and the Ladysmith Substation would be necessary. In addition, a 500 kV breaker, a 500 - 230 kV, 840 MVA transformer, a 230 kV breaker at the Ladysmith Substation, and three 230 kV breakers at the CT site would be necessary.[26]

The estimated cost to connect the CTs to the transmission system at Ladysmith is $12 million. The estimate includes transmission line costs, the expansion of the Ladysmith Substation and construction of the switchyard at the CT site. Locating the CTs at the Ladysmith site is expected to decrease transmission system losses by approximately 3 MW.[27]

Mr. Chupka testified that the Company considered the feasibility and costs of several alternative ways of connecting the proposed new generation at Ladysmith to the Virginia Power transmission system but determined the proposed facilities were the most effective and reliable option.

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[22]Exhibit JLJ-8, at 2.
[23]Id.
[24]Id. at 3.
[25]Exhibit MJC-11, at 2.
[26]Id. at 3.
[27]Id. at 4.

Mr. Bailey discussed the selection and environmental impact of the transmission line route. He testified that the new line will be either on existing transmission line right-of-way or on Company property. Mr. Bailey testified that the selected route thus minimizes any adverse impact on the scenic assets and environment of the area in accordance with Virginia Code § 56-46.1 and follows the applicable Federal Energy Regulatory Commission guidelines for siting transmission lines. Approximately 3.2 miles of the new line will be on the existing cleared right-of-way of the Ladysmith-Possum Point 500 kV line. An additional 500 feet where the new line exits the Ladysmith Substation will be on existing right-of-way that will be cleared. The remaining 3800 feet of new line will be on the property acquired by the Company for the CTs.[28] Mr. Bailey testified that the route creates the most direct connection of the proposed CT site to the existing transmission network, and maximizes the use of existing right-of-way.

Finally, the Company offered the testimony of James A. Cox who described the design characteristics of the transmission line and provided electric and magnetic field data for the proposed line. He testified that steel lattice structures approximately 125 feet tall with an average span length of approximately 1,000 feet would be installed to support the four-mile 230 kV single circuit line from the Ladysmith Substation to the CTs. The maximum field levels expected to occur at the edge of the right-of-way are more specifically defined in the Appendix to the Application.[29]

Staff reviewed the Company's applications and filed the testimony of Cody D. Walker, Massoud Tahamtani, and Mark K. Carsley. Staff continues to be concerned about Virginia Power's market power within its control area, but concluded that the Company's load forecasts were reasonable and the proposed project was the least costly, most reliable alternative.

Mr. Walker, assistant director in the Commission's Division of Energy Regulation, addressed the Company's request for certification and approval of expenditures for the construction of the new generation facilities, including the results of a review of the proposed project coordinated by the Department of Environmental Quality ("DEQ"). Mr. Walker testified that the targeted reserve margin of 12.5% is a departure from prior planning criteria. The Company recently developed target reserve margins based on a 12 loss-of-load hour ("LOLH") reserve criterion.[30] Mr. Walker notes that the Company has realized that its modeling techniques for applying the LOLH criterion may be biased as the analysis does not give sufficient weight to potential outages of larger units. Further, Mr. Walker noted that the Company's projected capacity needs do not reflect any loss of load associated with the retail customer choice pilot.[31] Mr. Walker testified that while the LOLH approach is an acceptable method for determining reserve requirements when modeled appropriately, but Staff is concerned that such an approach could be used to justify a reserve margin as low as 5.7%. Mr. Walker testified that the Company's reserve margins are expected to be 7.55%, 6.45% and 5.43% in 2001, 2002, and 2003 respectively without any additional capacity, and the addition of the proposed CTs will increase the reserves to only 9.51% in 2001. He also observed that reserve levels are generally decreasing throughout the country and while such a trend raises

[28]Exhibit JBB-9, at 3.
[29]Appendix to the Application containing information in response to the Commission's Guidelines of Minimum Requirements for Transmission Line Applications, at p. 33.
[30]Exhibit CDW-13, at 2-3.
[31]Exhibit CDW-13, at 3.

concerns about decreased reliability, such trends are understandable given the current state of transition in the industry. Mr. Walker testified that Staff will continue to monitor the level of reserves and associated trends, and generally, Staff supports Virginia Power's use of a 12.5% reserve margin target.

Mr. Walker also reviewed the Company's alternative sources of supply for meeting the projected capacity requirements. He testified that a preliminary evaluation of the bids indicated that the proposals were either more expensive than the proposed units or represented commitments to supply power from spot markets that would also be available to the Company.[32] He testified that Staff agrees that the proposed CTs will cost less and provide greater reliability than any of the proposals. Mr. Walker testified that the Company is negotiating with one of the bidders for 220 MW of capacity, but the forecasted requirements support the addition of that capacity and that provided by the proposed units.[33]

Finally, Mr. Walker testified that the DEQ coordinated a review of the proposed CT construction and related transmission facilities. The principle findings and recommendations for minimizing the impact of the project are:

- The DEQ air program is aware of the concerns that are being raised in regard to the cumulative air quality impact of this and other newly permitted or proposed peak generator facilities in Virginia. In response, the Department is performing a comprehensive analysis of these facilities to determine their cumulative impact on the air quality in nearby areas (particularly the Washington, D.C. ozone nonattainment area). We will act to assure that air quality standards are maintained.

- In general, DEQ recommends that the number of stream and wetland impacts be avoided to the maximum extent practicable. For unavoidable impacts, DEQ encourages the following practices to minimize impacts to wetlands and waterways: operation of machinery and construction vehicles outside of the stream-beds and wetlands; use of directional drilling from upland locations for the installation of utilities, the preservation and redistribution of the top 12 inches of trench material removed from a wetland for use as a wetland seed bank and root stock in the excavated area, and the use of synthetic mats when in-stream work is unavoidable. The use of erosion and sediment control measures, and careful construction practices during installation of the transmission line should minimize temporary impacts to state waters.

- The Chesapeake Bay Local Assistance Department ["CBLAD"] commented that application for the proposed power generation facilities did not address issues related to the Chesapeake Bay Preservation Act and Chesapeake Bay Preservation Area Designation and Management Regulations. The CBLAD recommends that the SCC require the applicant to document its

[32] Id. at 7.
[33] Id.

conformance with the requirements of the Act and Regulations prior to its approval of the new facilities. It is noted in the application that installation of the gas pipeline and oil pipeline will occur in an area that is designated as a Chesapeake Bay Resource Protection Area (Supplemental Testimony, Attachment 7).

- All solid wastes generated at the site should be reduced at the source, re-used, or recycled. All hazardous wastes should be minimized. In site preparation and excavation, the contractors should be alerted to the possibility of encountering subterranean waste, hazardous materials, or petroleum tanks. The DEQ Northern Regional Office, (703) 583-3800, and the Department of Emergency Services (804) 674-2400 should be contacted immediately in the event that these items are uncovered during construction.

- In general, we recommend that the use of herbicides or pesticides for landscape maintenance be done in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used. Please contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information.

- In the event that archaeological resources are encountered during excavation, DHR [the Department of Historic Resources] must be contacted immediately, Cara Metz at (804) 367-2323.

- Caroline County issued a Special Exemption Permit to Virginia Power for the Caroline combustion turbine facility on September 28, 1998. The permit is subject to the following conditions (not all conditions are listed, see attachment): (1) noise levels shall meet the applicable standards and requirements of Chapter 68 of the Code of Caroline County; (2) provided the Virginia Department of Transportation approves an entrance permit from subject property to U.S. 1, the fuel oil unloading facility shall be located on the subject property adjacent to U.S. 1 so as to have direct access to U.S. 1. All other traffic may utilize the existing access from Route 632 (Cedon Road); (3) monitoring wells will be installed in appropriate locations to determine current water levels prior to draw down tests required by the Health Department for the water supply wells planned for the facility. Water levels in these wells will be measured monthly beginning at the time any activity at the facility begins on the property and at more frequent intervals during on-site water pumping operations. This well data must be kept on site for inspector review; (4) if it is demonstrated that the quantity of water from an abutting property's well has been adversely impacted as a result of the applicant's water pumping operations for the facility, Virginia Power shall establish a mitigation plan subject to review and approval of the Caroline County Department of Planning and Community Development and the Department of Public Works. The purpose of the mitigation plan shall

be to correct the water quantity deficiency of the affected property owner's well.[34]

Staff also offered the testimony of Mark Carsley, a principal research analyst in the Division of Economics and Finance. He addressed the reasonableness of the Company's load forecast and the potential impact that retail access could have on that forecast. Mr. Carsley testified that the Company's forecasting methodology was found reasonable by the Commission in the Company's latest filed resource plan and its 1999/2000 fuel factor case.[35] Mr. Carsley testified that retail access will most certainly lower the forecasted peak loads, but to what extent remains unknown. He testified that Staff has no reliable estimate of the potential reduction and further asserts that attributing any loss of load to new generation over the forecast horizon considered in this application would be highly speculative.[36]

Mr. Carsley testified that the primary concern with the proposed construction is that the capacity will increase the concentration of generation ownership by Virginia Power within its control area. Such an increase was considered by Staff in Virginia Power's application for approval to build the units at Remington, Case No. PUE980462.[37] There, Staff estimated that even without the proposed Virginia Power units at Remington the Herfindahl-Hirschman Index analysis for the Company's control area in the year 2010 would indicate a highly concentrated market. The addition of the units, of course, would increase the index.[38] Mr. Carsley notes that increased concentration of capacity ownership by Virginia Power may serve to restrict entry by potential competitors and could raise the generation costs of any such competitors which would impact their decision to provide service within Virginia Power's control area.[39] He acknowledges that the situation could result in a competitive advantage for Virginia Power that may serve to discourage potential generators from locating in the Company's service territory. However, while the Staff is concerned with the market power possessed by Virginia Power, Mr. Carsley testified that the concern must be balanced against the potential summer peak load that the Company will face. Given the uncertainties surrounding the impact of retail access on the Company's peak load as well as considering its obligation to serve, Staff believes the forecast is reasonable.

Staff recommends that the Company be granted a certificate of public convenience and necessity to construct and operate two 160 MW CTs in Caroline County and that the Company be directed to undertake the actions identified in the DEQ review to minimize any potential impact to natural resources.

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[34] Id. at 8, 9.
[35] Exhibit MKC-15, at 3.
[36] Id. at 7.
[37] The *Remington case*, supra, 1999 S.C.C. Ann. Rep. 431.
[38] Id. at 8.
[39] Id.

Staff witness Massoud Tahamtani, also assistant director with the Commission's Division of Energy Regulation, offered testimony presenting Staff's evaluation of the proposed transmission line. He considered the alternatives reviewed by Virginia Power to connect the CTs to the grid. Those alternatives were as follows:

- Tap the existing Elmont-Fredericksburg 115 kV line or the Four Rivers-Fredericksburg 230 kV line and loop in and out of the CT site. These plans were rejected due to inadequate thermal capability of these existing lines.

- Build a radial 500 kV line from Ladysmith Substation to the CT site, or, tape the existing Ladysmith-Possum Point 500 kV line and loop in and out of the CT site. A unit stability study for the system in this area showed that for heavy power transfers from PMJ to CP&L, the 500 kV line between the CT site and Ladysmith Substation would be heavily loaded and that unit stability could not be maintained in the event of a fault on this line. A second 500 kV line between the CT site and Ladysmith Substation would be required to eliminate the unit stability problem. The 500 kV alternatives were rejected due to: a) higher costs and the need for additional space at the CT site for 500 kV equipment, b) Company's policy not to connect less than 1,000 MW of generation directly to its 500 kV transmission grid, and c) elimination of any future plan to extend a 230 kV line from the CT site to the north to tie into the existing 230 kV grid.

Mr. Tahamtani testified that the proposed transmission facilities are required to connect the proposed CTs to Virginia Power's transmission network, and provide the best technical and economical option available.[40] Mr. Tahamtani testified that if the Commission approves the construction and operation of the proposed CTs, Staff recommends that the Company's certificate of public convenience and necessity for Caroline County be amended to authorize the construction and operation of the 230 kV facilities as proposed.

One protestant, Dynegy, filed testimony in opposition to the Company's proposed generation units. Dynegy is an independent power producer with interest in several power generation facilities located in Virginia, California, Texas, Georgia, Michigan and Nevada with capacity exceeding 8,000 megawatts. Its subsidiary has an ownership interest in Commonwealth Atlantic Limited Partnership, a 340 MW natural gas fueled independent power project in Chesapeake, Virginia.[41] Dynegy also submitted a bid in response to the January 1999 RFP but was informed that its proposal was not selected for further consideration. Dynegy presented the testimony of David L. Cruthirds. Mr. Cruthirds also testified in the Company' s application for the Remington CT units.[42] Mr. Cruthirds asserts that the public convenience and necessity will be best served if the Commission denies the applications. He asserts that new Company-owned generation will enhance Virginia Power's market power, and urges the Commission to direct Virginia Power to obtain capacity and energy from the

[40]Exhibit MT-14, at 3.
[41]Protest of Dynegy Corporation dated April 6, 2000.
[42]The *Remington case*, supra, 1999 S.C.C. Ann. Rep. 428.

wholesale suppliers that bid in response to Virginia Power's most recent RFP issued in December 1999.

Mr. Cruthirds discussed horizontal and vertical market power at length. He testified that vertically integrated utilities such as Virginia Power can use their control to benefit themselves and their affiliates, to disadvantage competitors, and to exert control over captive retail customers.[43] He also testified that the scope of market power problems includes a consideration of transmission import limitations and the size of Virginia Power's native load.[44] He, however, acknowledges that Virginia Power has committed to set aside 428 MW of transmission import capability to match on a MW per MW basis the load eligible for its retail access pilot program. Mr. Cruthirds also acknowledges that Virginia Power is required by Federal law to provide non-discriminatory open access to competitors, but warned of opportunities for the Company to offer preferential service to itself during peak periods.[45]

Mr. Cruthirds raised concern with the timing of Virginia Power's application for the Ladysmith units. He asserted that the fact that Virginia Power filed this application within three days of opening the bids from the December 1999 RFP suggests that Virginia Power had already reached a decision to proceed with the units.[46] He urges the Commission to direct Staff to carefully scrutinize Virginia Power's evaluation of the Ladysmith units in relation to all proposals received in response to both the January 1999 RFP and the December 1999 RFP.

In response to Cruthirds' testimony, the Company submitted the rebuttal testimony of E. Paul Hilton. Mr. Hilton testified that Virginia Power has committed to allocate transmission capacity sufficient to serve the entire load eligible for the retail pilot plus transmission and distribution losses during the term of the pilot, apportioned among its four neighboring transmission systems.[47] He further testified that the Company, together with American Electric and Power Corporation, Consumers Energy Company, the Detroit Edison Company, and FirstEnergy Corporation have applied for approval by the Federal Energy Regulatory Commission of the Alliance Regional Transmission Organization ("Alliance RTO"). On December 20, 1999, the FERC granted conditional approval of the application and the Company expects the Alliance RTO to be operational on or before December, 2001.[48] Mr. Hilton testified that the Alliance RTO will have operational control over the Alliance companies' transmission facilities and will serve as an independent entity that provides transmission service on a nondiscriminatory basis. He recognized, however, that several major issues still need to be resolved before the Alliance RTO will be operational.[49]

Mr. Hilton also testified that the Company's currently effective market-based wholesale sales tariff approved by the FERC only authorizes it to sell power at wholesale to non-affiliated entities outside its service territory[50] He assured that the Company's proposed market-based rate sales will

[43]Exhibit DLC-16, at 4.
[44]Id. at 8.
[45]Id. at 5-6.
[46]Id. at 18.
[47]Exhibit EPH-18, at 4.
[48]Id. at 2.
[49]Transcript at 268-277.
[50]Exhibit EPH-18, at 3.

comply with the FERC's policies to protect against possible undue discrimination and abuse of utility-affiliate relationships.

Mr. Hilton responded to Mr. Cruthirds' attack on the timing of the application by testifying that it was imperative for the Company to proceed on a parallel track with the December 1999 RFP if it was to have any realistic chance to meet the forecasted need by June 2001. At the time of the solicitation, the Company was concerned that a self-build option might be necessary to meet at least part of the need for additional capacity. Given those concerns, Mr. Hilton testified that it was only prudent for the Company to take steps to ensure it would be ready to proceed if, indeed, its own build option turned out to be necessary.[51] He reiterated that the Company has an obligation to ensure that it has sufficient capacity to meet its service obligations to its customers and that the proposed self-build option is the best option available.

DISCUSSION

The application for the proposed facilities is a renewal of Virginia Power's request for peaking facilities at Ladysmith in Caroline County. The request was first made in August of 1998.[52] The Company withdrew its request for approval of any Ladysmith CTs in that case, and the Commission ultimately approved the amended application for four 150 MW Remington CT units in Fauquier County.[53] The Company, however, continued to evaluate the need for the Ladysmith CTs.

Need

Virginia Code § 56-234.3 requires the Commission to determine that the construction of a proposed project is "necessary to enable the public utility to furnish reasonably adequate service and facilities at reasonable and just rates." Virginia Code § 56-234.3 also requires that "[p]rior to construction or financial commitments therefor, any electric utility subject to the jurisdiction of the State Corporation Commission intending to construct any new generation facility capable of producing 100 megawatts or more of electric energy shall submit to the State Corporation Commission a petition setting forth the nature of the proposed construction and the necessity therefor in relation to its projected forecast of programs of operation."

Section 56-265.2 of the Code provides that "[i]t shall be unlawful for any public utility to construct. . .any facilities for use in public utility service. . .without first having obtained a certificate from the Commission that the public convenience and necessity require the exercise of such right or privilege."

[51] Id. at 6.
[52] The *Remington case*, supra, 1999 S.C.C. Ann. Rep. 428.
[53] Id.

Further, in 1987, the Commission stated that:

> Several factors must be demonstrated to the satisfaction of the Commission before it can properly approve any new construction. Among these factors are that the utility will have a need for additional power within the time frame contemplated;[54]

The criteria for certification of a public utility generating facility proposed by a distribution public utility is thus clearly established.[55] Need has always been a fundamental and threshold issue in addressing proposed construction by a public utility.

Ownership of generation facilities has changed somewhat in the last few years with the introduction of independent power producers, and the Virginia legislature has revised the criteria applicable to certification of such independent generation.[56] However, the criteria embodied in the Utility Facilities Act for the construction of facilities by a traditional public utility within its certificated service territories remains the same at this time. Change is on the horizon, but construction of generation facilities by Virginia Power as proposed in this case must be evaluated based on the need for, and the public convenience and necessity of, those facilities.

In this case, Virginia Power presented the testimony of Mr. Hilton and Mr. Stadelmeier on need. Mr. Hilton and Mr. Stadelmeier testified that the Company projects a cumulative capacity need of 810 MW in 2001, 1001 in 2002, and 1179 MW in 2003.[57] Three of the January 1999 bids were included as available capacity before the load forecast was projected for this case.[58] The December 1999 bids were not included because contract negotiations had not progressed far enough to provide sufficient certainty on which to rely.[59] Mr. Stadelmeier identified a number of significant assumptions included in the Company's load forecast. Specifically, a 200 MW diversity exchange with Allegheny Power and the 900 MW base load capacity purchase from Hoosier Energy Rural Electric Cooperative and American Electric Power Service Corporation have been eliminated from the forecast as the agreements have been suspended or terminated.[60] The Company included 229.67 MW of capacity from independent sources that it contracted with or expects to contract with as a result of the January 1999 RFP.

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[54]*Application of Virginia Electric and Power Company, ("Chesterfield 7")*, Case No. PUE860058, 1987 S.C.C. Ann. Rep. 262.
[55]*Application of Virginia Electric and Power Company*, Case No. PUE900006, 1990 S.C.C. Ann. Rep. 321; *Application of Commonwealth Atlantic Limited Partnership,* Case No. PUE900013, 1990 S.C.C. Ann. Rep. 329; *Application of Old Dominion Electric Cooperative and Virginia Electric and Power Company*, Case No. PUE890051, 1989 S.C.C. Ann. Rep. 308; *Application of Doswell Limited Partnership,* Case No. PUE890068, 1990 S.C.C. Ann. Rep. 297; *Application of Virginia Electric and Power Company*, Case No. PUE890007, 1989 S.C.C. Ann. Rep. 281; *Application of Virginia Electric and Power Company*, Case No. PUE860058, 1987 S.C.C. Ann. Rep. 262.
[56]Virginia Code § 56-580 D.
[57]Exhibits EPH-2, at 2 and CAS-7, at 4.
[58]Transcript 246.
[59]Id.
[60]Exhibit CAS-7, at 3.

The Company also changed its reserve margin target included in its forecast to 12.5%.[61] Company witness Stadelmeier observed that the Company had incorporated a 12 LOLH criterion to determine the level of reserves needed to assure a reliable supply of generation, but that criterion produced low reserve levels that were not acceptable to the Company.[62] He testified that the decline resulted in part from the growth in the size of the system. The LOLH criterion was first used in 1994 when the total system capability was 16,462 MW, and at the end of 1999 the system capability had reached 17,909 MW.[63]

Continued exceptional generating performance of Company units also contributed to the LOLH reserve margin target decline. The LOLH analysis indicates there is no need for additional capacity in 2001 and a reserve margin of 5.7% or 945 MW is adequate.[64] Mr. Stadelmeier testified that during the 1999 summer season there were 2,372 hours during which more than 945 MW of capacity were unavailable.[65] The Company therefore returned to a deterministic reserve margin criterion for planning, and used a 12.5% reserve margin target in its forecast in this case.

Staff witness Walker agreed with Company's concern that the bias in the LOLH modeling techniques currently yields low and declining reserve margin targets. Mr. Walker also observed that the LOLH analysis is heavily influenced by generating unit performance.[66] Mr. Walker explains that the LOLH criterion does not afford sufficient weight to potential outages of larger units,[67] and he therefore supports the use of the 12.5% reserve margin target.[68]

Staff witnesses Walker and Carsley also observed that the Company did not reduce its demand forecast to reflect load lost to competitive service providers as a result of retail access. Mr. Carsley, however, found that the Company's forecast was reasonable.[69] Mr. Carsley testified that retail access will affect the Company's load, but he could not reliably estimate the reduction.[70] Further, he opined that it would be highly speculative to forecast any reduction over the forecast horizon in this case.[71]

Dynegy also observed that the forecast did not reflect any reduction for retail access, but does not challenge the need for additional capacity.[72] Mr. Cruthirds, however, asserts that the public interest is best served if the capacity is acquired from a non-affiliated supplier.

There is no question that a clear need exists for additional generation capacity. A reserve margin target of 12.5% is appropriate. I also agree that it is not reasonable to include any reduction for retail access at this time. Virginia Power's pilot is scheduled to begin in September 2000. It will

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[61] Id.
[62] Id. at 4.
[63] Id. at 5.
[64] Id.
[65] Id.
[66] Exhibit CDW-13, at 3.
[67] Id.
[68] Id.
[69] Exhibit MKC-15, at 3.
[70] Id.
[71] Id. at 5-7.
[72] Exhibit DLC-16, at 16.

be some time before we can reasonably forecast the impact of retail access, and the planning horizon critical to the units at issue here is very short. Capacity is needed to meet the needs of Virginia Power in a reliable and responsible manner.

Further, it is important to note that the proposed facilities would satisfy only a portion of that need. Company needs 810 MW of capacity in 2001. The proposed CTs would provide only 320 MW of capacity.

Public convenience and necessity

Analysis of the public convenience and necessity of the construction proposed in this case, however, is broader than a simple determination of need. Virginia Code § 56-234.3 also requires consideration of cost-effectiveness and system reliability. Virginia Code § 56-46.1 requires the Commission to "give consideration to the effect of that facility on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact" and, additionally, the Commission "(i) may consider the effect of the proposed facility on economic development within the Commonwealth; and (ii) shall consider any improvements in service reliability that may result from the construction of such facility".[73] Section 56-265.2 requires a general assessment of the "public convenience and necessity" which encompasses economics, reliability, environmental concerns and more. The Commission also has held that other criteria that must be considered include: "that its cost estimates, choice of technology, construction plans and proposed manner of carrying out the project are reasonable; and that there are no suitable alternatives to the proposed construction, such as conservation and load management, upgrading existing units, or obtaining the necessary power from resources other than the utility's own facilities."[74] The Commission has also recently considered the level of Virginia Power's ownership of generation in its control area.

Thus, the Commission may include consideration of the effects of the proposed facility on economic development and must consider alternatives, the impact on the environment, service reliability, and the potential effect of the proposed capacity on the transition to a competitive market.

Dynegy witness Cruthirds urges the Commission to deny this application and direct Virginia Power to purchase its needed capacity from alternative and non-affiliated suppliers. Mr. Cruthirds argued that the Company did not fairly evaluate the January and December 1999 bids.[75]

> Virginia Power received proposals in response to two capacity solicitations ("RFP") in 1999 that may represent viable alternatives to Virginia Power's Ladysmith units, provided an objective "apples to apples" evaluation is performed. The first RFP was issued in January ("January 1999 RFP") for proposals to meet capacity needs of 864 MW in June/July 2000, 491 MW in

[73]Section 56-46.1 A.
[74]The *Chesterfield 7* case, supra, 1987 S.C.C. Ann. Rep. 262.
[75]Exhibit DLC-16, at 17.

> June 2001, and 360 MW in June 2002. The January 1999 RFP was issued pursuant to the Commission's January 14, 1999 Order in Case No. PUE980462. The January 1999 RFP produced 36 proposals from 14 bidders for capacity totaling 3,654 MW (2,804 MW in 2000, 536 MW in 2001, and 314 MW in 2002).
>
> The second RFP was issued in December 1999 ("December 1999 RFP") for approximately 850 MW of capacity. Virginia Power received 21 proposals from 13 bidders by the due date of January 18, 2000. . .
>
> [O]f the 2,804 MW proposed for the year 2000, only 354.5 MW survived Virginia Power's preliminary screen and were given a more detailed economic evaluation. . . . [W]e remain concerned that Virginia Power's evaluation methods continue to be biased toward its self-build decision.[76]

Company witness Jones verified that the Company has signed two contracts for a total of 5,670 kW from the January 1999 RFP. He testified that the Company expected to execute contracts based on three other proposals resulting in the availability of 64,000 kW by June 2000 and 160,000 kW by June 2001.[77] He affirmed that those contracts were included in the planning forecast for this case. Mr. Jones also advised that the Company received 21 proposals from 13 bidders in response to the December 1999 RFP and that several of those proposals may prove to be viable options to fill the remainder of the Company's need for 2001 and 2002 but that none of the proposals were as cost-effective as the proposed Ladysmith CTs.[78] Although the Company continued to evaluate those bids to serve the remainder of the Company's projected need, none of that capacity was included in the planning forecast here.

Staff witness Walker testified that the proposals were evaluated consistent with the methodology utilized in response to the Commission's order on the Remington units.[79] Mr. Walker testified that "the proposed combustion turbines will impose less cost on the Company and/or provide greater reliability than any of the proposals."[80] Both Virginia Power and Dynegy have vested interests in the outcome of the bid evaluations. Staff, however, represents an independent view of the evaluation process. Staff's review should therefore be afforded great weight. I find that the proposals were evaluated consistently and the proposed Ladysmith CTs represent the least cost and most reliable option available to serve a portion of the Company's need beginning June 2001.

Floyd Thomas, chairman of the Caroline County Board of Supervisors, appeared as a public witness in support of the application. He testified that representatives of Virginia Power presented their proposed plans to construct the facility to the County approximately two years ago. His staff and the County Planning Commission evaluated the project and determined the siting of the facility would not adversely affect their community. The County unanimously granted a special exception

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[76] Id. at 17-18.
[77] Exhibit JLJ-8, at 2.
[78] Id.
[79] Transcript 158-159.
[80] Exhibit CWD-13, at 7.

permit for the project in 1998. He advised that throughout the process, the Company had been forthright and cooperative, conducted several public information meetings, and not a single person appeared in opposition. He further advised that since the Company recognized the lack of public water to supply fire suppression in the area, the Company worked with the County Department of Fire and Rescue to make plans to provide water from the proposed site to the fire department for emergencies. Finally, he advised that the generation facilities would economically benefit Caroline County and that construction of the two proposed turbines would generate over $550,000 a year in tax revenue to the County. On behalf of the local governing body, Mr. Thomas looks forward to a long partnership with the Company.[81] The record therefore supports a finding that the economic development of Caroline County will be enhanced by this project.

Environmental Impact

The evidence on the environmental impact of the proposed units is uncontested. Company witness Rivas testified that the units will generally be fired on natural gas, although they will also be capable of burning fuel oil.[82] The units will be operated as peaking units and thus will run a very limited number of hours. The impact on the environment will therefore also be limited. Mr. Rivas also presented a summary of the environmental approvals required for the project and the status of any related application processes.[83] Although several approvals were still outstanding, including final approval on the required air permits, Mr. Rivas testified that the approval processes were underway and no problems were expected.[84] A hearing on the air permit was scheduled for June 28, 2000, and the Company expected the permit to be issued in July.[85]

Mr. Rivas filed supplemental testimony in this case to further address environmental concerns with the impact of the proposed facilities on wetlands. Twelve percent of the site is classified as wetlands, and a number of measures will be taken to minimize the impact on those wetlands. The clearing in those areas will be done by hand and no foundations or fill will be placed in those areas. The natural gas and fuel oil pipelines will be directionally bored or trenched under affected streams to a depth of at least three feet below the bottom of the stream. Finally, the 230 kV transmission line will span across a pond and the surrounding wetlands.[86]

Staff witness Walker also provided a summary of comments received by the DEQ.[87] Based on those comments, Mr. Walker recommended several conditions be imposed to assure that the Company minimizes the adverse impact on the environment. Mr. Rivas was questioned on each of those conditions at the hearing. In many instances the Company was already taking the suggested precautions or intended to comply with the requirements. The Company had no concern with any of the suggested conditions.[88]

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[81]Transcript 8-10.
[82]Exhibit EJR-3, at 2.
[83]Exhibit EJR-5.
[84]Transcript 55-56, 59.
[85]Id. at 87; Exhibit EJR-5.
[86]Exhibit EJR-4, at 2-3.
[87]Exhibit CDW-7, at 8-9.
[88]Transcript 59, 89-95.

Market Power

Mr. Nicholson, counsel to Dynegy, asserts that the evidence in this case raises market power concerns due to Virginia Power's ownership of generation in its control area magnified by its control over transmission facilities.[89] Mr. Cruthirds references a Virginia Power application pending before the Federal Energy Regulatory Commission, Docket No. ER00-1737-000, to amend its market-based wholesale sales tariffs as evidence of increasing market control. There, Virginia Power requests authorization to sell power at market-based rates at wholesale to affiliated entities for resale outside its service territory.

Mr. Nicholson also asserts that based upon Virginia Power's transmission import capability limitations, competitors outside Virginia Power's control area can only serve a fraction of Virginia Power's peak load requirements.[90] Further, he asserts that Virginia Power has or will have as a result of its control of electric generation capacity and/or transmission within a transmission constrained area, market power over the sale of electric generation capacity or energy to retail customers in Virginia. Dynegy also challenges the timing of this application and asserts that it offers further evidence that the Company proposes the units simply to make off-system sales at market prices. Mr. Cruthirds asserts that because market driven alternatives exist, the public interest does not require that Virginia Power build the CTs as proposed.

Mr. Nicholson argues that the public interest is much broader than the dollars and cents of a generation proposal,[91] and argues that the Ladysmith CTs will contribute to or increase Virginia Power's ability and incentive to exercise horizontal and/or vertical market power to the detriment of the best interests of the citizens of Virginia.[92] He asserts that if Virginia Power receives certification for these units and if it receives approval of its market-based rate proposal from the FERC, it will be able to sell output from the Ladysmith CTs to affiliates and non-affiliate companies at market rates. Mr. Nicholson urges the Commission to deny the certificate and direct Virginia Power to obtain the required generation from non-affiliated wholesale marketers and/or suppliers.

The record in this case is complete with an economics lesson fully detailing and graphically depicting supply and demand curves, and technically defining market power. Both Company and Dynegy cite the same treatise and defining cases.[93] Dynegy cites the legal treatise and case law to support its conclusion that Virginia Power's market power is so substantial that the Commission should deny the applications on that basis alone. Virginia Power references those same citations and argues that there is no evidence to support a finding that Virginia Power exercises any market power. Both parties agree that market power is traditionally defined in terms of relevant market and market share. Market power exists in degrees, and the usual obstacles are the readiness of the market to forgo the product if the price is too high, or the presence of competitors who can and will expand production.[94] The treatise explains that market power is not an antitrust concern unless it is

[89]Transcript 333.
[90]Transcript 23.
[91]Transcript 339.
[92]Transcript 348.
[93]Exhibit DLC-16, at 7; Transcript 317, 319.
[94]Areeda, Hovenkamp, Solow, Antitrust Law ¶ 501, at 85 (1995).

substantial in magnitude and durable.[95] It is critical to note that Virginia is in transition to a competitive environment and many safeguards exist, however, we should examine if Virginia Power would have market power over the applicable electric generation market in its control area.

In recently approving the Remington units, the Commission found that Virginia Power possessed "substantial market power over the provision of electric utility service within its current service territory, and will continue to possess such market power for the foreseeable future."[96] The Commission found that in light of the new competitive market envisioned by the Virginia Electric Utility Restructuring Act,[97] the Commission would favor awarding power supply contracts for required capacity to entities other than incumbent electric utilities if all things were equal. The Commission directed the solicitation of bids while that case was pending, but ultimately concluded that none of the bids received were superior to the Company's proposed construction. The Commission therefore "reluctantly" authorized construction of Virginia Power's Remington CTs as the best priced capacity available in a timely and reliable fashion. [98]

The Commission opined, however, that:

> [w]e are also convinced upon the record before us that the Company now has, and will continue to have, the ability to exercise market power over the generation and supply of electricity in a large portion of the Commonwealth. The Commission finds that while Virginia Power has developed an economical and efficient program for meeting its identified capacity needs, the program increases the Company's market power and makes generation competition more difficult and less likely to develop.[99]

The Commission also advised the Company to continue to negotiate with bidders to fulfill the remaining capacity requirements for the summer of 2000 and to continue to consider all offers received for capacity to be delivered in 2001 and 2002. The Commission referenced Virginia Power's commitment to obtain all capacity for the later years from the market, and therefore determined that its ability to exercise market power should be mitigated to some degree. The Commission directed the Company "to take promptly all steps necessary to secure market supplied capacity for delivery."[100] Mr. Hilton also acknowledges that the Company has concentrated ownership of generation in its control area.[101] Thus, despite Virginia Power's argument that this record does not support a finding that Virginia Power has market power in its control area, there has been no significant change in the level of non-affiliated generation. It is clear that Virginia Power continues to hold such power. Importantly, however, safeguards are in place to control any abuse of that market power. Virginia Power's rates are capped pursuant to Virginia Code § 56-582 until

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[95] Id. at 86.
[96] The *Remington case*, supra, 1999 S.C.C. Ann. Rep. 431, 433.
[97] Virginia Code § 56-576 et seq.
[98] The *Remington case*, supra, 1999 S.C.C. Ann. Rep. 431, 433.
[99] Id. at 432.
[100] Id.
[101] Transcript 296.

July 1, 2007.[102] Further, the FERC market-based rates are not applicable to sales within Virginia Power's service territory.[103] Although there are still unresolved issues that must be addressed before the Alliance RTO or another transmission organization is in operation, Virginia Power has a clear mandate to join such an independent organization,[104] and thereby provide independent control over transmission access.

Here, as in the *Remington case*, the Company retains the obligation to serve within its designated service territory, and the record herein supports a finding that additional capacity is needed and the Company's proposed Ladysmith CTs are the most cost-effective and reliable option available.

Transmission Facilities

The Company also proposes four miles of 230 kV single circuit transmission facilities to connect the proposed generating units to Virginia Power's transmission grid at the Ladysmith Substation. The proposed facilities will consist of 230 kV structures, conductors, insulators and associated equipment. Additional breakers and a new 840 MVA transformer will also be needed at the CT site and the Ladysmith Substation to complete the interconnection. The supporting structures are proposed to be steel lattice towers with an approximate height of 100 to 125 feet. The proposed transmission line will be on existing right-of-way or on the Company's property acquired for the CTs. Additional precautions will be taken with wetlands on the property. Thus the proposed facilities will reasonably minimize any impact on the environment.

Virginia Power considered two alternatives. First, it considered tapping the existing Elmont-Fredericksburg 115 kV line or the Four Rivers-Fredericksburg 230 kV line and loop in and out of the CT site. These plans were rejected due to inadequate thermal capability of these existing lines.

Second, the Company considered building a radial 500 kV line from the Ladysmith Substation to the CT site, or, tap the existing Ladysmith-Possum Point 500 kV line and loop in and out of the CT site. A unit stability study for the system in this area showed that for heavy power transfers from PMJ to CP&L, the 500 kV line between the CT site and Ladysmith Substation should be heavily loaded and that unit stability could not be maintained in the event of a fault on this line. A second 500 kV line between the CT site and Ladysmith Substation would be required to eliminate the unit stability problem. The 500 kV alternatives were rejected due to: a) higher costs and the need for additional space at the CT site for 500 kV equipment, b) Company's policy not to connect less than 1,000 MW of generation directly to its 500 kV transmission grid, and c) elimination of any future plan to extend a 230 kV line from the CT site to the north to tie into the existing 230 kV grid.

[102]Virginia Code § 56-582.
[103]*Alliance Companies, et al.*, 89 FERC ¶61,298 (December 20, 1999); *Alliance Companies, et al.*, 91 FERC ¶61,152 (May 18, 2000).
[104]Virginia Code § 56-579 et seq.

When Virginia Power conducted the transmission study to support the application, Virginia Power included the two proposed units and three additional units at Ladysmith in the transmission queue which raised questions about the full intent of the Company to construct Company-owned facilities, but Mr. Hilton advised that the Company does not have any immediate plans to install the additional units at Ladysmith.[105]

Staff witness Tahamtani reviewed the Company's transmission application. He opined that the proposed facilities are required to connect the proposed CTs to the Virginia Power transmission network and the Company's proposal is the best technical and economical option available. Staff recommends that the Company's certificate for Caroline County be amended to authorize the construction and operation of the proposed 230 kV transmission facilities if the Commission approves the Ladysmith CTs.[106] The Company's proposed transmission facilities are necessary, provide the best option available, and will reasonably minimize any adverse impact on the environment.

FINDINGS AND RECOMMENDATIONS

Based on the evidence, I find that:

1. Virginia Power has a need for additional cumulative capacity of 810 MW in 2001, 1001 MW in 2002, and 1179 MW in 2003;

2. The two proposed 160 MW combustion turbines at Ladysmith in Caroline County provide the most cost-effective and reliable option available to meet a portion of the forecasted need for June 2001;

3. The Company should be required to comply with the following conditions to minimize any adverse impact on the environment:

- The number of stream and wetland impacts should be avoided to the maximum extent practicable. For unavoidable impacts, the following practices are encouraged to minimize impacts to wetlands and waterways: operation of machinery and construction vehicles outside of the stream-beds and wetlands; use of directional drilling from upland locations for the installation of utilities, the preservation and redistribution of the top 12 inches of trench material removed from a wetland for use as a wetland seed bank and root stock in the excavated area, and the use of synthetic mats when in-stream work is unavoidable. The use of erosion and sediment control measures, and careful construction practices during installation of the transmission line should minimize temporary impacts to state water.

[105]Transcript 292.
[106]Exhibit MT-14, at 3.

- Virginia Power should document its conformance with the requirements of the Chesapeake Bay Preservation Act and Chesapeake Bay Preservation Area Designation and Management Regulations.

- All solid wastes generated at the site should be reduced at the source, re-used, or recycled. All hazardous wastes should be minimized. In site preparation and excavation, the contractors should be alerted to the possibility of encountering subterranean waste, hazardous materials, or petroleum tanks. The DEQ Northern Regional Office, (703) 583-3800, and the Department of Emergency Services (804) 674-2400 should be contacted immediately in the event that these items are uncovered during construction.

- The use of herbicides or pesticides for landscape maintenance should be done in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used. Contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information.

- In the event that archaeological resources are encountered during excavation, the Department of Historic Resources must be contacted immediately at (804) 367-2323.

- Virginia Power shall comply with the conditions established in the Caroline County Special Exemption Permit to Virginia Power for the Caroline combustion turbine facility on September 28, 1998.

4. The proposed facilities will enhance the economic development of Caroline County;

5. There is a need for the 230 kV transmission lines and associated facilities proposed in this case;

6. The public convenience and necessity require construction of the proposed transmission facilities; and

7. The proposed route uses existing right-of-way to the maximum extent reasonably possible and thus reasonably minimizes any adverse impact on the scenic and environmental assets of the concerned area.

I therefore ***RECOMMEND*** that the Commission enter an order that:

1. ***ADOPTS*** the findings in this Report;

2. ***GRANTS*** the Company's application for approval of expenditures and a certificate of public convenience and necessity for two 160 MW combustion turbine units at Ladysmith in Caroline County pursuant to Virginia Code §§ 56-46.1, 56-234.3, and 56-265.2 and related provisions of Title 56;

3. ***AMENDS*** the Company's current certificate of public convenience and necessity for Caroline County to authorize the construction and operation of the proposed transmission facilities necessary to interconnect the CTs to the Company's transmission system; and

4. ***DISMISSES*** this case from the Commission's docket of active cases upon issuance of the required certificates.

COMMENTS

The parties are advised that any comments (Section 12.1-31 of the Code of Virginia and Commission Rule 5:16(e)) to this Report must be filed with the Clerk of the Commission in writing, in an original and fifteen (15) copies, within fifteen (15) days from the date hereof. The mailing address to which any such filing must be sent is Document Control Center, P.O. Box 2118, Richmond, Virginia 23218. Any party filing such comments shall attach a certificate to the foot of such document certifying that copies have been mailed or delivered to all counsel of record and any such party not represented by counsel.

Respectfully submitted,

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Deborah V. Ellenberg
Chief Hearing Examiner